

II. REJECTION OF CLAIMS 1-3 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SASAKI (US 6,293,711 B1) IN VIEW OF OMAE ET AL. (JP 05040210A)

On page 2 of the Office Action, claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (US 6,293,711) in view of Omae et al. (JP 05040210A).

The present invention as recited, for example, in claim 1 as amended herein, relates to an optical module comprising “a ferrule having a slope end surface” and “a photodetector mounted on the slope end surface, and optically coupled directly with the optical fiber.”

Sasaki discloses an optical transmission module. In Fig. 9, Sasaki discloses a photoelectric converter 10 and a photoelectric converter 12 mounted on a device mounting portion of the substrate 4.

On page 3 of the Office Action, the Examiner states that Sasaki discloses a photodetector attached to the end face and optically coupled directly with the optical fiber, in Fig. 9 of Sasaki.

However, Sasaki does not teach that a photodetector is mounted on an end face and optically coupled directly with an optical fiber. Moreover, for example, the photoelectric converter 10 of Sasaki is mounted on the substrate 4, and the ferrule 18 has a flat end to engage with the part of the substrate 4 of which the photoelectric converter 10 is provided thereon (see Figs. 6 and 9 of Sasaki). Therefore, Sasaki fails to teach or suggest a ferrule having a slope end surface, and a photodetector mounted on the slope end surface and optically coupled directly with the optical fiber as recited in claim 1 of the present application.

Omae discloses a terminating device for a beam splitting line. Omae discloses that a slope 13 is provided on a rear end face of a ferrule 10, namely, on the rear end face of an optical fiber cord 11 so as to transmit optical signals entered from a front terminal side of the optical cord to an outside without reflecting them.

However, Omae is silent regarding the mounting of a photodetector on the slope end 13 of the ferrule 10. Thus, Omae fails to teach a photodetector mounted on the slope end surface of a ferrule as recited, for example, in claim 1 of the present application.

Therefore, Sasaki and Omae, either alone or in combination, do not teach or suggest the features as recited in claim 1 of the present application.

Claims 2 and 3 depend from independent claim 1. Therefore, for at least the reasons

that claim 1 distinguishes over the cited prior art, it is respectfully submitted that claims 2 and 3 also distinguish over the cited prior art.

In view of the above, it is respectfully submitted that the rejection is overcome.

III. REJECTION OF CLAIMS 4-5 UNDER 35 U.S.C. § 103(A) AS BEING UNPATENTABLE OVER SASAKI (US 6,293 711 B1) IN VIEW OF OMAE ET AL. (JP 05040210A) AS APPLIED TO CLAIMS 1-3 ABOVE, AND FURTHER IN VIEW OF GO (US 6,280,102 B1)

The comments in section II, above, also apply here. Further claims 4 and 5 depend from independent claim 1. Therefore, for at least the reasons that claim 1 distinguishes over the cited prior art, it is respectfully submitted that claims 4 and 5 also distinguish over the cited prior art.

In view of the above, it is respectfully submitted that the rejection is overcome.

IV. NEW CLAIM

New claim 6 recites an optical module comprising "a ferrule having a slope end surface" and "a photodetector mounted on the slope end surface, and optically coupled directly with the optical fiber," which distinguishes over the cited prior art.

In view of the above, it is respectfully submitted that claim 6 patentably distinguishes over the cited prior art.

V. CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that each of the claims patentably distinguishes over the prior art, and therefore defines allowable subject matter. A prompt and favorable reconsideration of the rejection along with an indication of allowability of all pending claims are therefore respectfully requested.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please AMEND the following claims:

1. (ONCE AMENDED) An optical module comprising:
a ferrule having a slope end surface and supporting an optical fiber penetrated therethrough;
a photodetector [attached to] mounted on the slope end surface, and optically coupled directly with the optical fiber;
a module substrate supporting the ferrule; and
a resin package covering the ferrule so that an end of the ferrule protrudes from the resin package.
2. (ONCE AMENDED) The optical module as claimed in claim 1, further comprising:
a supporting base mounted on the module substrate, the supporting base supporting the ferrule.
3. (ONCE AMENDED) The optical module as claimed in claim 1, further comprising:
electronic parts mounted on the module substrate.
4. (ONCE AMENDED) The optical module as claimed in claim 1, wherein the resin package comprises:
engagement protrusions that are to be engaged with an optical connector.
5. (ONCE AMENDED) The optical module as claimed in claim 1, wherein[:] the resin package comprises:
engagement protrusions which are to be engaged with an optical connector[:], and the engagement protrusions extend along side surfaces of the resin package.

Please ADD the following NEW claim:

6. (NEW) An optical module, comprising:
 - a ferrule having a slope end surface and supporting an optical fiber extended therethrough; and
 - a photodetector mounted on the slope end surface, and optically coupled directly with the optical fiber.